

INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Docket Number (Optional)

GS 162 D1

Application Number

Unassigned

Applicant(s)

Richard A. Blanchard

Filing Date

Filed Herewith

Group Art Unit

2826

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	1	5,744,719A	04-1998	Werner	73	514.32	
	2	5,895,951 A	04-1999	So et al.	257	330	
	3	6,184,555 B1	02-2001	Tihanyi et al.	257	342	
	4	5,216,275	6-1993	Chen	257	493	
	5	5,404,040	4-1995	Hshieh et al.	257	341	
	6	5,973,360	10-1999	Tihanyi	257	330	
	7	4,959,699	9-1990	Lidow et al.	357	23.7	
	8	US-20020070418 A1	06-2002	Kinzer et al.	257	491	

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO
	1	DE 198 00 647 C1	5/27/99	Germany	H01L29	78		✓
	2	DE 197 48 523 A1	5/12/99	Germany	H01L29	78		✓
	3	WO 99/23703	3/14/99	PCT	H01L29	06		✓
	4	EP 0 053 854 B1	5/2/86	EPO	H01L29	06	✓	
	5	EP 0 973 203 A2	1/19/00	EPO	H01L29	06		✓

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

1	G. Deboy et al. "A New Generation of High Voltage MOSFETS Breaks The Limit Line of Silicon," Electron Devices Meeting, San Francisco, California, December 6-9 1998, Paper No. 26.2.1, pgs. 683-685, Sponsored by Electron Devices Society of IEEE.
2	T. Fujihira et al., "Simulated Superior Performances of Semiconductor Superjunction Devices," Proceedings of 1998 International Symposium on Power Semiconductor Devices & ICs, Kyoto, Japan, pp. 423-426.

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.


FEES

- IV. ☒ THIS IDS IS BEING FILED UNDER 37 C.F.R. §1.97(b): (check one box)
- a. ☒ within three months of the filing date of a national application other than a continued prosecution application under § 1.53(d) (37 C.F.R. §1.97(b)(1)). No fee or statement is required.
 - b. ☐ within three months of the date of entry of the national stage as set forth in § 1.491 in an international application (37 C.F.R. §1.97(b)(2)). No fee or statement is required.
 - c. ☐ before the mailing date of a first Office Action on the merits (37 C.F.R. §1.97(b)(3)). No fee or statement is required.
 - d. ☐ before the mailing date of a first Office Action after the filing of a request for continued examination under § 1.114 (37 C.F.R. § 1.97(b)(4)). No fee or statement is required.
- V. ☐ THIS IDS IS BEING FILED UNDER 37 C.F.R. §1.97(c): (check one box)
before the mailing date of any of a Final Office Action under 37 C.F.R. §1.113, a Notice of Allowance under 37 C.F.R. §1.311, or an action that otherwise closes prosecution in the application (See 37 C.F.R. §1.97(c)).
- a. ☐ No statement; therefore, charge deposit account 50-1047 the fee set forth in 37 C.F.R. §1.17(p).
 - b. ☐ See the statement below. No fee is required.
- VI. ☐ THIS IDS IS BEING FILED UNDER 37 C.F.R. §1.97(d):
on or before payment of the issue fee and is accompanied by the following:
- 1) a statement under 37 C.F.R. §1.97(e) as provided below; and
 - 2) charge deposit account 50-1047 the petition fee set forth in §1.17(p).
- VII. ☐ STATEMENT UNDER 37 C.F.R. §1.97(e) (check only one box, if applicable)
The undersigned hereby states that
- a. ☐ each item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing of IDS; or
 - b. ☐ no item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application, and to knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in the IDS was known to any individual designated in 37 C.F.R. 1.56(c) more than three months prior to the filing of this statement, or
 - c. ☐ some of the items of information contained in the IDS were cited in a communication from a foreign Patent Office. As to this information, the undersigned states that each item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing of this IDS. As to the remaining information, the undersigned hereby states that no item of this remaining information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application or, to the knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in the IDS was known to any individual designated in 37 C.F.R. 1.56(c) more than three months prior to the filing of this statement.
- VIII. PAYMENT OF FEES
- ☐ A check in the amount of _____ is enclosed for the above-identified fee(s).
 - ☐ Please charge Deposit Account No. 50-1047 in the amount of \$180.00 for the above-indicated fee(s).
 - ☒ If Applicant has overlooked any additional fees, or if any overpayment has been made, the Commissioner is hereby authorized to credit or debit Deposit Account 50-1047.
 - ☐ Two Copies of this paper are attached for Deposit Account charges and debits.

It is Applicant(s)' opinion that the claims presently on file patently distinguish the present invention from each of these references. The above references are being cited only in the interests of candor and without any admission that they constitute statutory prior art or contain matter which anticipates the invention or which would render the same obvious, either singly or in a combination, to a person of ordinary skill in the art.

If the Examiner has any questions concerning this IDS, he/she is requested to contact the undersigned. If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule (with a petition if necessary) and charge the appropriate fee to Deposit Account No. 50-1047.

Respectfully submitted,
Mayer Fortkort & Williams, PC



Karin L. Williams
Attorney for Applicant
Reg. No. 36,721
Tel. 908-518-7700

Mayer Fortkort & Williams, PC
Customer Number 27774

Enclosures: ☒ PTO/SB/08
☐ References
☐ Foreign Search Report
☐ Other:

Certificate of Mailing By Express Mail

I hereby certify that this correspondence is being deposited with the United States Postal Service as "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: Mail Stop Patent, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 on 9/29/03.

Marjorie Scariati
(Printed name of Person Mailing Correspondence)


(Signature)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Richard A. Blanchard
Application No.: Unassigned
Date Filed: Filed Herewith
Title: HIGH VOLTAGE POWR MOSFET HAVING LOW ON-RESISTANCE
Group Art: 2826
Examiner: Thomas L. Dickey
Docket: GS 162 D1

INFORMATION DISCLOSURE STATEMENT (IDS)

Mail Stop Patent
Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22231-1450

SIR:

In accordance with 37 C.F.R. §1.56 and in compliance with 37 C.F.R. §§1.97 and 1.98, the references listed on attached Form PTO/SB/08 and/or subsequently identified herein, are being submitted herewith for consideration by the United States Patent and Trademark Office.

I. COPIES

- a. ☐ A legible copy of (i) each U.S. and foreign patents; (ii) each publication or that portion which caused it to be listed; and (iii) all other information or that portion which caused it to be listed, is included herewith.
- b. ☒ Any patents, publications or other information which are listed on PTO/SB/08 which are not enclosed herewith were previously cited by or submitted to the PTO in one of the following applications which has been relied upon for an earlier filing date under 35 U.S.C. §120:

U.S. Serial Number
09/849,036
09/586,407

U.S. Filing Date
05/04/2001
06/02/2000

II. CONCISE EXPLANATION OF THE RELEVANCE (check at least one box)

- a. ☒ Except as may be indicated below in (b) of this section, all of the patents, publications or other information are in the English language (concise explanation not required).
- b. ☐ A concise explanation of the relevance of all patents, publications or other information listed that is not in the English language is as follows:
- c. ☐ The following additional information is provided for the Examiner's consideration:

III. ☐ CROSS REFERENCE TO RELATED APPLICATION(S)

The Examiner is advised that the following co-pending application(s) contain(s) subject matter that may be related to the present application. By bringing this (these) applications to the Examiner's attention, Applicant(s) does(do) not waive the confidentiality provisions of 35 U.S.C. §122.

Serial No.

Filing Date

Art Unit

INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

ATTY DOCKET NO.

GS 162 D1

SERIAL NO.

Unassigned

Richard A. Blanchard

FILING

Filed Herewith

GROUP

2826

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	6	JP 08264772	11/10/96	Japan	H01L29	78	✓	
	7	GB 2 314 206 A	12/17/97	United Kingdom	H01L29	739	✓	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	3	Chen, Xingbi, "Theory of a Novel Voltage Sustaining (CB) Layer For Power Devices," <i>Chinese Journal of Electronics</i> , Vol. 7, no. 3, July 1998, pp. 211-216.
	4	T. Fujihira, "Theory of Semiconductor Superjunction Devices," <i>Japanese Journal of Applied Physics</i> , Vol. 36 (1997), pp. 6254-6262.

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DATE CONSIDERED

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Group Art Unit

2826*EXAMINER
INITIAL**OTHER DOCUMENTS** *(Including Author, Title, Date, Pertinent Pages, Etc.)*

5

Jean-Marie Peter, "Power Semiconductors: New Devices Pursue Lower On-Resistance, Higher Voltage Operation," PCIM, January 1999, pp. 26-32.

6

"Power Semiconductors Proliferate: Expanding Product Lines and Advancing Process Technology Promise Higher Performance in Varied Applications," Electronic Products, July 1999, pp. 23-24.

7

L. Lorenz et al., "Improved MOSFET: An Important Milestone Toward A New Power MOSFET Generation," PCIM, September 1998, pp. 14-22.

8

X. Chen, "Optimum Design Parameters For Different Patterns of CB-Structure," Chinese Journal of Electronics, Vol. 9, No. 1, January 2000, pp. 6-11.

9

Jack Glenn et al., "A Novel Vertical Deep Trench RESURF DMOS (VTR-DMOS)," Proceedings of the 12th International Symposium on Power Semiconductor Devices & ICS, Toulouse, France, May 22-25, 2000, pp. 197-200.

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